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A STUDY OF NUCLEAR INTERACTIONS OF 800 GeV PROTONS IN EMULSION

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A STUDY OF NUCLEAR INTERACTIONS OF 800 GeV PROTONS IN NUCLEAR EMULSION

Objectives

1. Measurement of mean free path of 800 GeV protons in Emulsion.

2. Analysis of the inclusive shower-particle spectrum in pseudo-rapidity($= \ln \tan \frac{\theta}{2}$)

3. Analysis of the multiplicity distribution on secondary charged particles and checking the KNO scaling.

4. Investigation of the ratio of average multiplicity in proton-emulsion to that in proton-proton interactions at the same energy.

Instrument

An emulsion stack consists of 50 nuclear emulsion pellicles of size 10cm x 4cm x 0.06cm.

Total amount of nuclear emulsion is about 120 ml.

Conditions desired

The proton beam density of 5×10^4 protons $/cm^2$ is desired.

The beam energy is higher the better.